



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,196	03/01/2005	Mathias Lang	NL 021110	8329

24737 7590 01/22/2008
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

LERNER, MARTIN

ART UNIT	PAPER NUMBER
----------	--------------

2626

MAIL DATE	DELIVERY MODE
-----------	---------------

01/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,196

Applicant(s)

LANG ET AL.

Examiner

Martin Lerner

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 10 is/are pending in the application.
- 4a) Of the above claim(s) 5 to 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 to 4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because code-book 7 needs a numerical label in Figure 1. See Specification, Page 4, Lines 29 to 34.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office Action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, Applicants will be notified and informed of any required corrective action in the next Office Action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 2, line 33, "cording" should be "according".

On page 2, line 34, "dependents" should be "depends".

On page 4, line 25, "processes" should be "processed".

On page 6, line 7, "of at wish" is not idiomatic.

On page 6, line 27 to 31, it is questioned whether the Equation should have a variable C_n instead of the second G_n , because it is implied that C_n is present in the Equation, and G_n represents a gain, but C_n represents a code vector.

Appropriate correction is required.

Claim Objections

3. Claims 5 to 10 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should not depend upon another multiple dependent claim. See MPEP § 608.01(n). Accordingly, claims 5 to 10 have not been further treated on the merits.

Each of multiple dependent claims 5 to 10 depend upon claim 3, which is a multiple dependent claim.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 10 is a signal claim. The USPTO takes the position that a signal claim is non-statutory because it is not a process or composition of matter. See MPEP §2106.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1 to 4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Independent claim 1 is equivalent to a "single means" claim because it analogously sets forth only a single method step. The claim recites a method step of replacing data having a low reliability measure by data that is more reliable, wherein the

more reliable data has certain characteristics. "Single means" claims are held to fail to meet the enablement requirement of 35 U.S.C. §112, 1st ¶. A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. §112, 1st ¶. *In re Hyatt*, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) See MPEP 2164.08(a).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 to 4 are rejected under 35 U.S.C. 102(e) as being anticipated by *Brückner et al.*

Regarding independent claim 1, *Brückner et al.* discloses a method of interpolation for spectral components considered to be unreliable in speech recognition, comprising:

"reconstructing a disturbed spectrogram comprising spectrogram data, which is subjected to an awarding of a reliability measure, and whereof the spectrogram data having a low reliability measure is replaced by more reliable data, characterized in that

the replacement is carried out by employing spectrogram data having a higher reliability measure as a means for selecting a code-book entry where said more reliable data is stored" – a probability for a spectral component ("spectrogram data") to contain speech is calculated; in case the probability calculation results in a low probability to contain speech, the spectral component is considered to be unreliable ("an awarding of a reliability measure"); these unreliable components are then interpolated by looking at spectral components at least of one adjacent subband and/or at least one preceding or successive spectral component of the short-term spectrum ("whereof the spectrogram data having a low reliability measure is replaced by more reliable data") (column 3, line 65 to column 4, line 15: Equation (2)); in one embodiment, the interpolation is calculated as a weighted sum of the actual estimated spectral component $|S_i(t_i)|$ and the corresponding component of the closest vector, $V_l(m)$, or $V_l(m_{closest})$; $V_l(m_{closest})$ corresponds to the closest entry in a codebook CB, that is, the codebook entry $V(m)$, with m being one of the codebook entries, that has the smallest spectral distance, $(|S_i(t_i)| - |V_l(m)|)^2$; the interpolation is then performed by extracting spectral information from said noiseless speech spectra having the smallest distance from codebook CB (column 4, line 44 to column 5, line 15: Equations (3) and (4): Figure 2); thus, replacement of unreliable spectral components is obtained by interpolating from spectra of noiseless components that are entries in a codebook CB ("characterized in that the replacement is carried out by employing spectrogram data having a higher reliability measure as a means for selecting a code-book entry where said more reliable data is stored").

Regarding claim 2, *Brückner et al.* discloses the interpolation is calculated as a weighted sum of the actual estimated spectral component $|S_i(t_i)|$ and the corresponding component of the closest vector, $V_I(m)$, or $V_I(m_{closest})$; $V_I(m_{closest})$ corresponds to the closest entry in a codebook CB, that is, the codebook entry $V(m)$, with m being one of the codebook entries, that has the smallest spectral distance, $(|S_i(t_i)| - |V_I(m)|)^2$; the interpolation is then performed by extracting spectral information from said noiseless speech spectra having the smallest distance from codebook CB (column 4, line 44 to column 5, line 15: Equations (3) and (4): Figure 2); the replacement is based on smallest distance, or "match", between the noiseless speech, $|S_i(t_i)|$, following spectral subtraction ("the spectrogram data having a higher reliability measure"), and a closest corresponding code entry of a codebook for a spectrum containing noiseless speech, $V_I(m_{closest})$ ("the reliable spectrogram data stored in the code-book").

Regarding claims 3 and 4, *Brückner et al.* discloses that the interpolation is performed by calculating a weighted sum of a probability of a spectral component being unreliable with each successive spectral component at least at times t_i and t_{i-1} (column 4, lines 7 to 15: Equation (2): Figure 4); thus, the weighted sum depends at least on the probability of unreliability ("on the reliability measure"); the replacement by interpolation is "gradual" at least in a temporal sense in that a value for the current component, $|S_i(t_i)|$, found by an interpolation depends upon not only a product of the probability for the current component, $|S_i(t_i)|$, but on the product of the probability for a preceding spectral component $|S_i(t_{i-1})|$, as well.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Juang et al. discloses related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

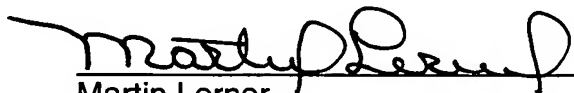
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number:
10/526,196
Art Unit: 2626

Page 9

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML
1/14/08


Martin Lerner
Examiner
Group Art Unit 2626